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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,592	09/18/2003	Takao Yamanouchi	KOY-7	6833

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,592

Applicant(s)

YAMANOUCHI ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6 and 18-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6 and 18-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I, claims 1, 6, and 18-35 in the reply filed on 21 November 2005 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 18-28, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohyama *et al.* in US Patent 2002/0037469.

Kohyama discloses a toner formed by a salting-out fusion process (¶ [0265]; Abstract). This toner has an average particle size of 3 to 8 µm (¶ [0115]) and a number particle size distribution of not more than 27 % (Abstract).

The toners summarized in Tables 8 through 11 have number-average particle sizes of 6.3 to 6.7 µm with number size variations coefficients of particle size ranging from 21 to 24 % (see ¶ [0104]). For example, Colored Particle 1Y has a number-average particle size of 6.6 µm, number variation coefficient of particle size of 22 %, and is formed from a mixture of resins having molecular weight peaks at 518,000 (HP-1), 103, 000 (MP-1), and 18,000 (LP-1) (see ¶¶ [0335], [0346], [0373]). The reference toner particles are combined with 10 nm silica and 25 nm titania external additives to give the final toner (¶ [0413]). Kohyama also teaches that various

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external additives are effective including organic particles with a size of 10 to 2000 nm ([0241]). As noted above, the variation coefficient for the particle size distribution is given in [0104]. For the values in Colored Particle 1Y, the standard deviation of the toner size is 1.45 μm (i.e., $22 = [(S/6.6) \times 100]$). A very small number of particles would have sizes of 2.5 μm or less given these data. Average shape factors for the toner are disclosed in Tables 7-10, including values such as 1.30 for colored particles 16Bk.

Because Kohyama teaches a toner having a small number of particles at an average particle diameter of 2.5 μm or less it appears that the toner of Kohyama's examples inherently has an adhesive stress within that specified in the instant claims. The instant specification teaches that the number of particle at or below 2.5 μm controls the adhesive stress (spec. pp. 14-15) and because both Kohyama and the instant specification minimize the number of these particles it appears that the claimed adhesive stress characteristics are inherently met. Inherency for this feature is further emphasized by the fact that toners have the size of small externally added particles within the scope of those claimed and taught by the specification as aiding a reduced adhesion effect. There is ample evidence in this art to believe the reference inherently has the claimed adhesive stress.

The Examiner recognizes that the reference does not identically disclose a combination of external additives, such as the 10 nm silica and 25 nm titania discussed above, with larger additives, such as the organic particles of [0241]. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a combination of the exemplified combination of 10 nm silica and 25 nm titania with 2000 nm organic particles because each of the inorganic and organic particles are taught by the reference as effective external additives and it is *prima facie* obvious to use a combination of components taught as effective for the same purpose in order to obtain the benefits of the

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external additive components. The artisan also would have found it obvious to optimize the amount of the respective additives in order to obtain the fluidity and chargeability taught by the reference. It appears from the specification disclosure that any one of the three factors (a), (b), or (c) in the specification permits the artisan to obtain the claimed adhesive stress. Because Kohyama has the small number of particles at an average particle diameter of 2.5 μm or less it appears that the toner of Kohyama's examples inherently has an adhesive stress as claimed even when substituting additional 2000 nm organic external additives into the toner composition. This new grounds of rejection fully responds to the recent amendments and the remarks presented on response pages 30 and 31.

Claims 1, 6, and 18-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kohyama *et al.* in US Patent 2002/0037469 in view of Hagi *et al.* in US Patent 6,338,929.

Kohyama was discussed above. The reference discloses that external additives are effectively included in the toner composition to improve fluidity and charging (¶¶ [0236] – [0243]). The reference does not identically disclose the combination of external additives now claimed but does teach that external additives should be added and exemplifies certain external additives, as discussed above.

Hagi teaches a toner having a combination of external additives. Specifically, the reference discloses (i) toner particles containing a binder resin and a colorant, (ii) a first external additive consisting of first inorganic particles whose number-average particle size is 5-40 nm, (iii) a second external additive consisting of second inorganic particles whose number-average particle size, which is larger than that of the first external additive, is 20-160 nm, (iv) a third external additive consisting of third inorganic particles whose number-average particle size, which is larger than that of the second external additive, is 80-1200 nm, and (v) a fourth external

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additive consisting of a metal salt of fatty acid whose volume-average particle size is 1.5-12 μm , said four external additives being externally added to the toner particles. This combination of external additives suppresses adhesion of material to the surface of the photoreceptor while improving the wear characteristics of the photoreceptor. Specific combinations of the external additives are given in Table 1. Each of these combinations of additives meets the requirements of the independent claims, as well as dependent claim 29 noting the inorganic oxides. Each of these examples, with the exception of Example 4, meets the requirements of claim 6, where three additives of different size characteristics are required.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the external additives of Hagi in the invention of Kohyama because Kohyama desires a toner that does not adhere substances to the surface of the photoreceptor (§ [0019]) and Hagi discloses an external additive combination that furthers this aim. This new grounds of rejection fully responds to the recent amendments and the remarks presented on response pages 30 and 31 and the remarks concerning the new claims on page 32.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
3 January 2006


CHRISTOPHER RODEE
PRIMARY EXAMINER